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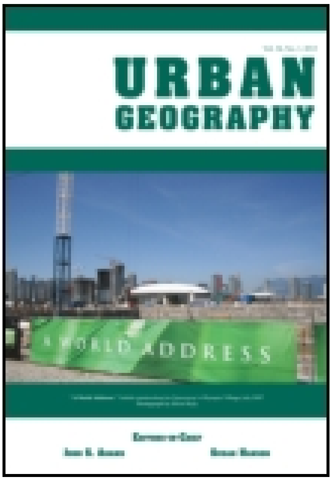

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The Effect of the Residential Mosaic and "White Flight" on Public School Composition: Evidence from Los Angeles County

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THE EFFECT OF THE RESIDENTIAL MOSAIC AND "WHITE FLIGHT" ON PUBLIC SCHOOL COMPOSITION: EVIDENCE FROM LOS ANGELES COUNTY

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Abstract: This article examines the relationship between public school and neighborhood composition in Los Angeles County. In contrast to studies that examine the relationship between school and neighborhood composition at the school district level, our analysis focuses on the finer geographical unit of school attendance zones and finds that there is a strong correlation between the racial and ethnic composition of the school attendance zone and that of the school located in it. However, the analysis of the outliers suggests that private school attendance and open enrollment may increasingly lead to an uncoupling of the relationship between public school and neighborhood composition. This has important implications for school integration and suggests that even in a multiethnic city like Los Angeles "White flight" continues to be one strategy by which White families avoid contact between their children and racial or ethnic minorities. [Key words: public school composition, White flight.]

INTRODUCTION

Since the doctrine of "separate but equal" became discredited during the Civil Rights movement, one of the purposes of the U.S. educational system has been to promote the racial and ethnic integration of students within public schools. This goal began to be ursued in earnest in 1954, when the Supreme Court introduced mandatory desegregation in its ruling in the *Brown* case. Later decisions introduced bussing across neighborhoods to achieve desegregation (Armor, 1972, 1996). In effect, it was hoped that dismantling the system of apartheid schools would improve educational outcomes for minority students (Rivkin, 2000). The work of Welch and Light (1987) documented both the desegregation of many school districts following *Brown* and subsequent Supreme Court decisions and the ensuing White exodus from many cities and towns that decidedly dampened the impact of school desegregation on interracial contact. Clearly segregation in schools is not something that has been successfully addressed, because school ethnic composition is frequently related to aspects of the debate regarding both educational development and multicultural interrelationships, with arguments that ethnically segregated schools inhibit the development of multiethnic understanding and undermine

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educational performance (Johnston et al., 2004). Low-income, high-need, and minority children still tend to be enrolled in poor schools often located in the inner city (Kozol, 1991, 1994; Anyon, 1996), while higher income, better educated White families are typically found in the suburbs and/or use private schools (Lankford and Wyckoff, 2000).

The legacy of school segregation, desegregation litigation, and the residential location decisions of households have combined to shape the spatial distribution of school location and the students attending them. This study examines the extent to which the residential mosaic that emerges from the location decisions of households influences the composition of public schools in Los Angeles County, and whether this relationship is affected by the presence of private schools, neighborhood income, and characteristics of the schools themselves. Since most urban centers and their hinterlands are no longer simply Black and White, but rather are moving toward being more prismatic (Zubrinsky and Bobo, 1996), examining this relationship in Los Angeles will provide important insights into the influence of patterns of residential segregation on school segregation because the county is one of the most ethnically and racially diverse areas in the United States and is often viewed as the "signal case" for the future of America's urban areas (Bobo et al., 2000). Moreover, Los Angeles became slightly less segregated by race and ethnicity during the 1990s and exhibits a considerable degree of economic diversity both within and among the different ethnic and racial groups living there (Strait, 2006; Clark and Ledwith, 2007). Therefore, Los Angeles County serves as a useful case study in which the influence of the residential mosaic on public school composition can be examined.

THEORETICAL CONTEXT

Levels of ethnic segregation in American public schools decreased until the 1980s and the racial achievement gap in the United States declined. However, evidence from the Civil Rights Project at Harvard University suggests that this trend reversed during the 1990s, with the average White student attending a school that is 80% White. Moreover, so-called apartheid schools (those whose pupils are 99–100% non-White) have re-emerged in the United States: in 2000–2001, they educated one-sixth of Black and one-ninth of Latino students (Frankenburg et al., 2003). Frankenberg et al. argue that this re-segregation results from the fact that White students are much more likely to leave urban public schools than are minorities, due primarily to their negative reaction to increasing proportions of minorities. Several other studies examine whether the choice between private and public school is influenced by the racial composition of the local population. These studies generally find evidence of "White flight" from public schools into private schools when neighborhoods and the public schools serving them have large concentrations of Blacks or minorities (Conlon and Kimenyi, 1991; Figlio and Stone, 2001; Fairlie and Resch, 2002; Saporito, 2003).

In addition to choosing to attend private schools, parents and students also have increased options regarding attendance in public schools. Under the *No Child Left Behind* legislation, students are permitted to transfer out of so-called failing schools, with the hope being that parents will seek out better educational opportunities for their children. This transition from neighborhood-based to choice-based attendance among public school students further complicates the relationship between neighborhood and public school composition. Advocates of choice-based school attendance argue that removing constraints to attendance will reduce segregation by removing neighborhood, district and municipal borders that have become social and bureaucratic barriers to integration (e.g., Finn, 1990). In contrast, critics assert that broadening the attendance options of students and their families will merely increase the levels of stratification in a system already characterized by racial and socioeconomic inequality (Astin, 1992). In essence, it is feared that White families will take advantage of open enrollment policies to avoid racially heterogeneous public schools by choosing to have their children attend more heavily White public schools outside their immediate residential area. It is for this reason that opponents of increased school choice fear that the policy will exacerbate racial segregation in schools (Henig et al., 1999; Saporito and Lareau, 1999; Astin, 1992).

Clearly, the ethnic composition of schools is not an accident but rather an outcome of institutional features of the educational system as well as the residential and educational choices made by families (Coleman et al., 1975; Clotfelter, 1976; Reber, 2003; Sanbonmatsu et al., 2004). In the context of U.S. cities, the most important determinant of school composition is the existing residential mosaic (Clotfelter, 1999; Reardon et al., 2000). Rivkin (1994) and Clotfelter (1999) find that virtually all of the segregation that currently exists in public schools results from the location decisions of households with respect to school districts, and not from insufficient effort to integrate schools within districts. Moreover, Rivkin (1994) shows that in 1988, even if all U.S. school districts had been perfectly integrated such that each school reflected the district share of all racial groups, housing patterns would still have led to large numbers of Blacks having few White schoolmates. Thus, it is important to also take into consideration the impact that changes in demography may have on school and neighborhood composition, and to address whether “White flight” is a plausible factor in determining public school composition in multiethnic Los Angeles.

One of the most thought-provoking studies on this issue is Saporito and Sohoni’s (2005) examination of whether increased school choice changes levels of racial segregation in public schools. They first compare the actual racial composition of public schools and the racial composition of school-aged children living in their corresponding attendance zones. Their results show that public schools are more segregated than the neighborhoods they serve, and they conclude that public schools would be less racially segregated if all children living in a school district attended their local neighborhood schools. They also find that private school attendance and increased choice, possible through magnet and charter school programs, contribute to overall racial segregation within many school districts.

Saporito and Sohoni (2005) used data from the attendance zones of 22 of the largest school districts in the United States, including the Los Angeles Unified School District (LAUSD), to examine trends at the national level. This article is more regional in focus and examines the relationship between public school and attendance zone composition across the 83 school districts in Los Angeles County. Whereas the primary research question of this study is whether neighborhood composition influences public school composition and segregation, it also addresses some possible mitigating factors in that relationship. The first of these factors is whether the income level of a neighborhood affects the relationship between the composition of the local public school and the neighborhood it serves. Given the relationship between neighborhood wealth and amenities such as good schools, we expect that increased neighborhood wealth will increase the proportion of children enrolled in public schools. Moreover, this increase in enrollment will be most noticeable among White children since they are more likely than their minority counterparts to be living in wealthier neighborhoods. The second factor is whether the characteristics of the school itself, specifically the proportion of Title I funding it receives and school quality, will influence enrollment. Since Title I funding is based upon the number of socioeconomically disadvantaged or academically at-risk children in a school, it is likely that it will be positively correlated with Black and Latino enrollment since they are disproportionately represented in both of these categories. School rank, which is calculated by the California Department of Education from the Base Academic Performance Index for California schools, is used to measure school quality. The expected outcome associated with public school quality is that as school quality increases, enrollment increases.

DATA AND METHODS

The geographical unit of analysis in this study is the school attendance zone, of which there are 1,723 countrywide: 1,191 at the elementary level, 362 at the middle school level, and 171 at the high school level. In Los Angeles County, each of the 83 school districts has responsibility for determining school attendance areas within their boundaries. The use of attendance zones as the primary geographic unit necessitates the aggregation of census tract-level data in order to construct a database with socioeconomic and racial data for each school neighborhood at the elementary, middle, and high school level. This was done using ArcGIS 9.0 and resulted in approximately 1–2 census tracts being aggregated into any given elementary school attendance zone. The number of tracts in each attendance zone increases at the middle and high school level and the data do not match up as well. (However, since each census tract is not uniquely associated with a school, it would be difficult to discuss the composition of school neighborhood using tracts as our spatial unit of analysis.) This enables a more accurate comparison of school and school neighborhood composition because each attendance area is linked to an individual school. Data on the racial composition of each school associated with the attendance area were added, and were obtained from the National Center for Education Statistics (NCES) in the *Common Core of Data*. In addition, data on private school location were included using the addresses for each school, available from the NCES in the *Private School Survey* and the address matching function in ArcGIS 9.0. This database allowed a formal examination of the relationship between school and neighborhood composition, using OLS regression. The variables included in the analysis are described in Tables 1 and 2. Table 3 provides information on colinearity among the variables and shows that using total population instead of total school age population reduces multi-colinearity. Furthermore, the tolerance values in Tables 4–6 are not so small that further investigation is necessary.

This database also provided the data for constructing a series of scatterplots to illustrate the relationship between school and neighborhood composition, paying particular attention to the outlying cases. These outlying cases were then linked to data from the Los Angeles Family and Neighborhood Survey (LAFANS)[2] to examine whether the

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[2] The LAFANS is a planned longitudinal study of families from 65 neighborhoods in Los Angeles County, which is specifically designed to answer key research and policy questions with regard to neighborhood, family, and peer effects on children's development.

TABLE 1. VARIABLES INCLUDED IN THE REGRESSION MODELS

Variable	Description
Dependent	
Percent White in public school	White children as a percent of total public school enrollment
Percent Latino in public school	Latino children as a percent of total public school enrollment
Percent Black in public school	Black children as a percent of total public school enrollment
Percent Asian in public school	Asian children as a percent of total public school enrollment
Independent	
Percent White	White school-age children as a proportion of total population in attendance area.
Percent Latino	Latino school-age children as a proportion of total population in attendance area.
Percent Black	Black school-age children as a proportion of total population in attendance area.
Percent Asian	Asian school-age children as a proportion of total population in attendance area.
Attendance zone median income (in thousands)	This is included to assess whether the wealth of the residential attendance zone influences enrollment in public schools across different ethnic groups.
Private schools in attendance zone	The number of private schools in the attendance zone is included to measure whether their presence affects the racial composition of public schools.
Title I	Title I funding is available to schools based on the percent of low-income students enrolled. If the proportion is below 40%, the funds must be used for the poorest students. If it is above 40%, the funds can be used school-wide. It is coded 0 for not eligible and 1 for eligible.
School quality	The school ranking scheme from the Base Academic Performance Index for California schools is used to measure school quality. A rank of 10 is the highest and 1 is the lowest.

attendance patterns of students living in or attending school in outlying cases reflected a different pattern than that which emerged at the aggregate level. This linkage was possible using the restricted version of the LAFANS, which includes the geocoded location of each household in the survey.

RESULTS AND DISCUSSION

The Influence of the Residential Mosaic on Public School Composition

It is clear from the results of the simple model in Table 4 that White enrollment in elementary public schools falls as the proportion of minorities in the school neighborhood increases. In fact, a 5% increase in Latino, Black, or Asian children in the neighborhood will lead to an almost 4% decrease in White enrollment in the neighborhood school. This reflects the results of previous research on “White flight,” which shows that minority

TABLE 2. DESCRIPTIVE STATISTICS FOR VARIABLES INCLUDED IN THE REGRESSION MODELS

	Elementary			Middle			High		
	N	Mean	Std. dev.	*N*	Mean	Std. dev.	*N*	Mean	Std. dev.
Percent White in school	1,105	18.7	23.5	232	19.8	21.7	151	21.3	22.1
Percent Latino in school	1,105	59.7	29.9	232	56.6	27.5	151	53.8	26.6
Percent Black in school	1,105	10.3	15.5	232	11.2	13.9	151	12.5	15.1
Percent Asian in school	1,105	10.8	14.8	232	11.7	14.7	151	11.8	15.3
Percent White in zone	1,108	4.3	4.5	234	4.6	4.2	153	4.9	4.4
Percent Latino in zone	1,108	11.7	7.7	234	11.2	7.1	153	10.8	6.9
Percent Black in zone	1,108	2.3	3.5	234	2.2	3.3	153	1.2	2.9
Percent Asian in zone	1,108	2.1	2.7	234	2.2	2.7	153	2.4	2.6
Zone median income	1,108	48.9	19.9	234	50.5	17.3	153	52.4	17.4
Private schools in zone	480	1.6	0.9	188	2.7	1.9	110	2.3	1.7
Title I	1,108	0.8	0.4	234	0.7	0.5	153	0.4	0.5
School quality	1,042	4.5	2.9	225	4.3	2.9	106	4.2	3.0

TABLE 3. CORRELATION TABLE FOR ATTENDANCE ZONE COMPOSITION OF CHILD POPULATION USING TOTAL POPULATION VERSUS SCHOOL AGE POPULATION AS THE DENOMINATOR

	Total population			School age population		
Correlation between	Elem.	Middle	High	Elem.	Middle	High
White–Asian	–.65**	.01	–.02	.00	.06**	.00
White–Latino	–.29**	–.67**	–.70**	–.78**	–.78**	–.81**
White–Black	–.01	–.33**	–.33**	–.30**	–.35**	–.34**
Asian–Latino	.04	–.38**	–.35**	–.37**	–.44**	–.40**
Asian–Black	–.32**	–.27**	–.27**	–.25**	–.27**	–.28**
Latino–Black	–.24**	.10	.13	–.13**	–.06	–.00

**p* > .05. ***p* > .01.

presence acts as a deterrent to White enrollment (Conlon and Kimenyi, 1991; Figlio and Stone, 2001; Fairlie and Resch, 2002; Saporito, 2003). However, it is also true that there is an "own-race" relationship between elementary school and neighborhood composition across the ethnic groups—for every 1% increase in the percent of White school-age children living in an attendance zone, there is a 3.6% increase in White enrollment in the neighborhood school. This trend is consistent with previous research, which showed that the most important determinant of school composition is the existing residential mosaic

TABLE 4. RELATIONSHIP BETWEEN PUBLIC SCHOOL AND ATTENDANCE ZONE COMPOSITION AT THE ELEMENTARY LEVEL

	Percent White in public school b	Percent Latino in public school b	Percent Black in public school b	Percent Asian in public school b	Collinearity diagnostics	
					Tol.	VIF
(A) Simple model (n = 1,105)						
Percent White	3.637**	–2.606**	–0.666**	–0.400**	0.406	2.463
Percent Latino	–0.796**	2.177**	–0.871**	–0.499**	0.399	2.505
Percent Black	–0.777**	–2.272**	3.408**	–0.344**	0.737	1.357
Percent Asian	–0.796**	–2.662**	–1.016**	4.475**	0.678	1.474
Constant	15.887**	56.272**	17.674**	9.542**		
R^2	.838	.859	.799	.865		
(B) Expanded model (n = 448)						
Percent White	2.917**	–1.530**	–0.911**	–0.519**	0.270	3.709
Percent Latino	–0.379**	1.668**	–0.947**	–0.344**	0.331	3.023
Percent Black	–0.471**	–2.590**	3.311**	–0.245**	0.635	1.576
Percent Asian	–1.769**	–1.403**	–1.125**	4.245**	0.681	1.469
Zone income	–0.025	–0.027	0.098**	–0.042*	0.305	3.281
Private schools	–0.483	0.970	–0.541	–0.004	0.933	1.072
Title I	–8.255**	6.314**	3.574**	–1.694*	0.550	1.819
School quality	2.652**	–3.584**	–0.146**	0.989**	0.258	3.872
Constant	12.611**	66.542**	13.220	7.550		
R^2	.889	.897	.808	.869		

*$p > .05$. **$p > .01$.
Sources: NCES Common Core of Data (2002); NCES Private School Survey (2002); California Department of Education Base Academic Performance Index (2002); U.S. Census Bureau (2000).

(Clotfelter, 1999; Reardon et al., 2000). The own-race relationship between school and neighborhood composition is very robust and persists when the model is expanded to include neighborhood wealth, the presence of private schools, and school characteristics.

In contrast to the expected relationship between White enrollment in public schools and neighborhood wealth, there is no significant increase in enrollment in schools located in more affluent neighborhoods. Indeed, the direction of the relationship suggests that White enrollment in public schools falls in neighborhoods exhibiting higher incomes. The same is true for Latino enrollment. These results seem counterintuitive but suggest that students living in more affluent neighborhoods are less confined to their local attendance areas, and may be making attendance decisions that are not related to the resources that may be available at their local public school. In contrast, higher neighborhood income significantly decreases Asian enrollment whereas the relationship between neighborhood wealth and Black enrollment in public schools is positive. This highlights that

Black parents are more likely than their Asian counterparts to enroll their children in public schools in higher-income neighborhoods. However, while the results are significant, it is important not to over-interpret them because the coefficients associated with neighborhood income are small—a $10,000 increase in neighborhood median income translates into a 0.4% reduction in Asian enrollment and almost a 1% increase in Black enrollment.

The results associated with the number of private schools in the attendance zone are equally surprising, with no significant relationship emerging between public school enrollment and the number of private schools in the attendance zone. This contrasts with the results of Saporito and Sohoni (2005), who found that private school attendance contributed to segregated patterns of public school attendance. Again, care must be taken to avoid over interpreting the perceived lack of influence of private schools on attendance. It is possible that due to the small size of elementary level attendance zones, the effects of private schools are not apparent since it is likely that parents who decide to send their children to private schools are not making such decisions based on the attendance zone boundaries associated with their local public school.

In contrast to the uniform lack of significance of private schools, the influence of school characteristics is quite variable across the ethnic spectrum. Title I funding significantly reduces White enrollment in schools, highlighting the fact that White students are, on average, wealthier than their minority counterparts and do not attend schools that qualify for low-income funding. The same pattern emerges with regard to Asian enrollment. In contrast, Title I funding is significantly and positively associated with Latino and Black enrollment, reflecting that Latino and Black students on average are socioeconomically and academically disadvantaged in comparison to their White counterparts. School quality is also a significant factor influencing enrollment across all ethnic groups, with significantly lower Black and Latino enrollment in schools with high ranking. This is not an indication that Latino and Black students do not wish to attend high-quality schools. Rather, it is a reflection of the complex relationship between the residential mosaic and the distribution of amenities within it. Black and Latino families may be disproportionately concentrated in poor neighborhoods in which the schools are performing poorly.

The own-race relationship between neighborhood composition and public school enrollment is also apparent at the middle school level, although the change in scale from elementary to middle school attendance zones may be responsible for reducing the influence of the proportion of other ethnic groups in the neighborhood on White and Asian school enrollment (Table 5). The own-race relationships also hold when the model is expanded to include neighborhood income, the number of private schools in the attendance zone, and school characteristics, again highlighting the robustness of the relationship between the residential mosaic and public school composition.

There also are some important differences that emerge in the expanded model at the middle school level. The relationship between neighborhood wealth and public school enrollment reverses—it is no longer significant for Black and Asian enrollment but becomes significant for White and Latino enrollment. Again, the expected relationship between increased White public school enrollment and neighborhood wealth is nonexistent. Rather, public school enrollment of White students falls in higher income neighborhoods. Taken in tandem with the fact that the number of private schools in the attendance zone is also negatively and significantly related to White public school

TABLE 5. RELATIONSHIP BETWEEN PUBLIC SCHOOL AND ATTENDANCE ZONE COMPOSITION AT THE MIDDLE SCHOOL LEVEL

	Percent White in school b	Percent Latino in school b	Percent Black in school b	Percent Asian in school b	Collinearity diagnostics	
					Tol.	VIF
(A) Simple model ($n = 232$)						
Percent White	3.854**	–2.988**	–0.795**	–0.153	0.367	2.728
Percent Latino	–0.587**	1.877**	–0.895**	–0.406**	0.353	2.829
Percent Black	–0.558**	–2.510**	3.228**	–0.192	0.699	1.431
Percent Asian	–0.183	–3.469**	–1.098**	4.720**	0.605	1.652
Constant	10.372**	62.845**	20.047**	6.736**		
R^2	.830	.893	.840	.907		
(B) Expanded model ($n = 182$)						
Percent White	2.793*	–1.847**	–0.732**	–0.254	0.221	4.535
Percent Latino	–0.322**	1.483**	–0.966**	–0.213*	0.209	4.774
Percent Black	–0.370	–2.893**	3.249**	–0.026	0.609	1.642
Percent Asian	–1.972	–1.810**	–0.953**	4.681**	0.435	2.296
Zone income	–0.178**	0.145**	0.088	–0.053	0.298	3.355
Private schools	–0.564**	0.162	0.240	0.172	0.741	1.350
Title I	–1.727	0.551	–1.398	2.598**	0.677	1.477
School quality	3.884	–4.293**	–0.934**	1.266**	0.212	4.728
Constant	10.892*	69.449**	20.065**	–0.254		
R^2	.896	.936	.823	.906		

*$p > .05$. **$p > .01$.

Sources: NCES Common Core of Data (2002); NCES Private School Survey (2002); California Department of Education Base Academic Performance Index (2002); U.S. Census Bureau (2000).

enrollment, it is possible that "White flight" to private schools does in fact play a role in public school composition. Furthermore, the fact that this relationship emerges when the neighborhood becomes larger also highlights that decisions to send children to private schools may not be confined by residential location.

At the high school level, there is also evidence of an own-race relationship between school enrollment and neighborhood composition for each ethnic group, although the influence of the proportion of other ethnic groups living in the neighborhood is less significant for White and Asian enrollment at this level than at the elementary level (Table 6). As at the elementary and middle school level, the own-race relationship also holds in the expanded model. In fact, the impact of neighborhood composition on White enrollment in public schools is more apparent in the expanded model at the high school level than in the simple model. It is also clear that the number of private schools in the attendance zone influences White enrollment in public high schools, a trend that was also

TABLE 6. RELATIONSHIP BETWEEN PUBLIC SCHOOL AND ATTENDANCE ZONE COMPOSITION AT THE HIGH SCHOOL LEVEL

	Percent White in school b	Percent Latino in school b	Percent Black in school b	Percent Asian in school b	Collinearity diagnostics	
					Tol.	VIF
(A) Simple model (*n* = 151)						
Percent White	3.965**	–2.536**	–1.066**	–0.482*	0.326	3.068
Percent Latino	–0.443*	1.790**	–0.989**	–0.393*	0.320	3.124
Percent Black	–0.479	–2.909**	3.567**	–0.202	0.706	1.417
Percent Asian	–0.116	–3.161**	–1.432**	4.654**	0.586	1.706
Constant	8.111	59.873**	24.748**	7.732*		
R^2	.827	.781	.711	.769		
(B) Expanded model (*n* = 71)						
Percent White	3.430**	–2.241**	–0.858**	–0.433	0.158	6.317
Percent Latino	–0.468*	1.517**	–0.911*	–0.140	0.256	3.907
Percent Black	–0.619*	–2.917**	3.463**	0.059	0.535	1.871
Percent Asian	–1.934**	–2.229**	–1.142*	5.284**	0.319	3.131
Zone income	–0.171*	0.281*	0.066	–0.151*	0.263	3.796
Private schools	–0.992*	0.020	0.402	0.603*	0.846	1.182
Title I	–1.200	5.784*	–4.298*	–0.129	0.546	1.832
School quality	2.561**	–3.633**	–0.895	1.909**	0.165	6.072
Constant	17.445**	55.514**	22.465**	3.478		
R^2	.937	.948	.870	.956		

*p > .05. **p > .01.

Sources: NCES Common Core of Data (2002); NCES Private School Survey (2002); California Department of Education Base Academic Performance Index (2002); U.S. Census Bureau (2000).

apparent at the middle school level. It is interesting as well to note that the number of private schools in the attendance zone is significantly and positively associated with Asian public school enrollment. This seems to be a spurious result given the fact that Asian enrollment in public high schools falls in wealthier neighborhoods in a similar pattern to that of White enrollment.

Although the presence of private schools, levels of neighborhood wealth, and school characteristics influence enrollment patterns across ethnic groups, this analysis makes it very clear that the racial and ethnic composition of the residential mosaic is one of the most fundamental processes driving the composition of public schools in Los Angeles County. The scatterplots below highlight the own-race relationship between school and neighborhood composition by illustrating the relationship between the proportion of each racial and ethnic group living in the neighborhood and the proportion and attending the public school in that neighborhood. This also allows the outliers to be identified, which enables an examination of the attendance patterns of individual students living in outlying neighborhoods in order to gain further insight into the relationship between the residential mosaic, school attendance decisions, and the composition of public schools in Los Angeles County.

Disparities between Neighborhood and School Composition

If all children in Los Angeles County attended school in their residential attendance zone there would be no disparity between the ethnic composition of the school-age population (children aged 5–18) in each neighborhood and the schools located within them. However, this is not the case because Los Angeles County has an open enrollment policy[3] allowing children to choose to attend school in attendance zones other than the one in which they live in addition to choosing to attend private schools.

Figures 1 through 3 compare the ethnic composition of schools to the ethnic composition of the school-age population in the attendance zones associated with each school. The hypothetical fit line ($Y = 0 + 1x$) illustrates a one-to-one relationship between school composition and neighborhood composition (i.e., where there is equal representation of an ethnic group in both school and attendance zone). The solid line represents the actual relationship, using a best-fit line to illustrate the dominant trend in the data. In this dataset, the best-fit line is either linear or quadratic. In addition, the outliers (two standard deviations from the fit line) are highlighted to draw attention to cases in which there is a large disparity between school and neighborhood composition.

Among White elementary school students (Fig. 1), the actual fit is below the hypothetical fit, illustrating that the percent of White students in public schools is lower than the percent of White students in the neighborhood. This suggests that White children attend schools outside the area in which they live or go to private schools. Among Latino elementary students, the opposite is true. There is a higher proportion of Latino students in public schools than live in the neighborhoods in which they are enrolled. Furthermore, this relationship is curvilinear, suggesting that Latino children are over-enrolled in neighborhoods with lower levels of Latino students. This is likely a result of students attending schools in areas outside those in which they live, either by choice or due to overcrowding in their neighborhood schools. The relationship between school and neighborhood composition for Black and Asian students is more closely aligned to the hypothetical situation in which there is a one-to-one relationship between school and neighborhood composition.

At the middle school level (Fig. 2), the scatterplots again highlight the fact that lower proportions of White students attend public schools than the neighborhood composition suggests. For Latinos, the actual fit-line for the relationship between the proportion of Latinos enrolled in school and the proportion living in the neighborhood becomes linear, although it still shows that a higher proportion of Latino students is enrolled in schools than would be expected, given the composition of the school neighborhoods. The fit-line

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[3] Although AB1114 established a mandatory program of open enrollment, the extent to which open enrollment can occur is constrained by school composition and available space. In some instances students will be allocated to schools outside their residential attendance zone because of overcrowding. Unfortunately, it is not possible to disaggregate students attending outside by choice and those who have been allocated to nonneighborhood schools.

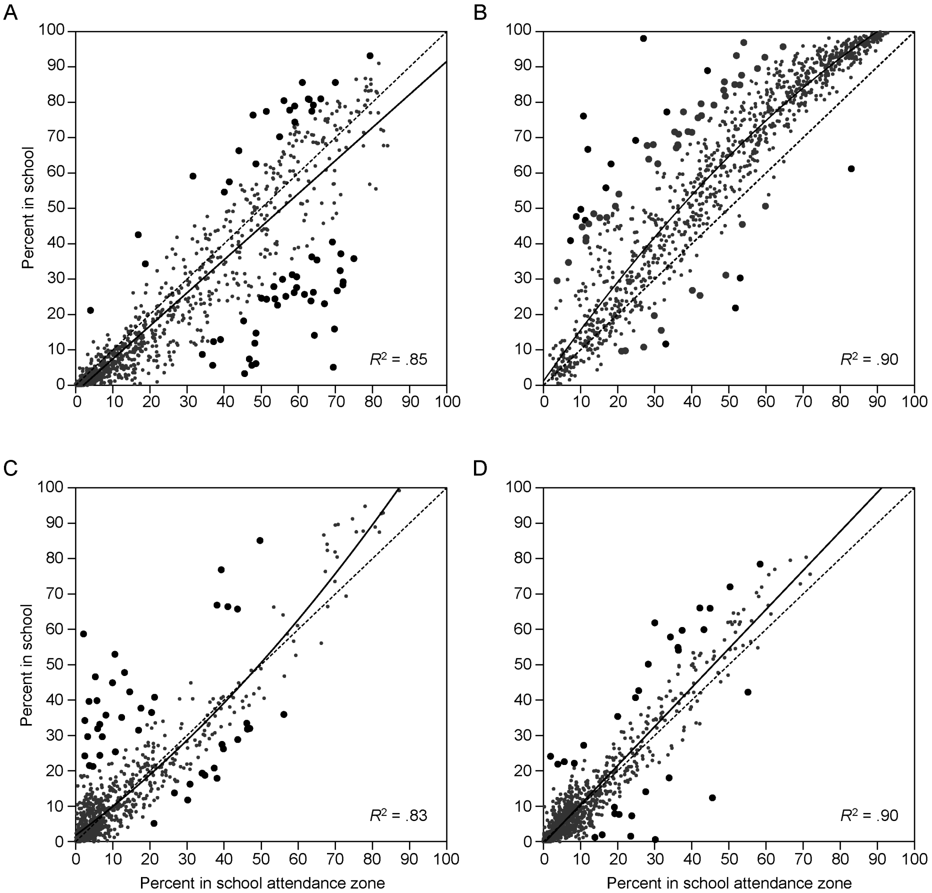

Fig. 1. Relationship between elementary school composition and neighborhood ethnic composition. (A) White, (B) Latino, (C) Black, (D) Asian. *Sources:* NCES Common Core of Data (2002); U.S. Census Bureau (2000).

for the relationship between Black middle school enrollment and neighborhood composition is curvilinear. This underscores that there is a higher proportion of Black students enrolled in schools than would be expected, given the proportion of Black children living in the neighborhoods. The same trend emerges at the high school level (Fig. 3), with White students under-enrolled while Latino, Black, and Asian students are over-enrolled.

Figure 4 shows the location of schools that have a higher proportion of an ethnic group enrolled than the neighborhood composition would suggest (positive outliers). It is clear that there are very few instances in which there is a higher proportion of White students enrolled in the school than the neighborhood suggests, with small clusters of elementary schools emerging in the high-income neighborhoods of the Burbank/Glendale area and in Palos Verdes. The opposite is true for minority enrollment, with many schools having a higher proportion of Latino, Black, and Asian students enrolled than the composition of

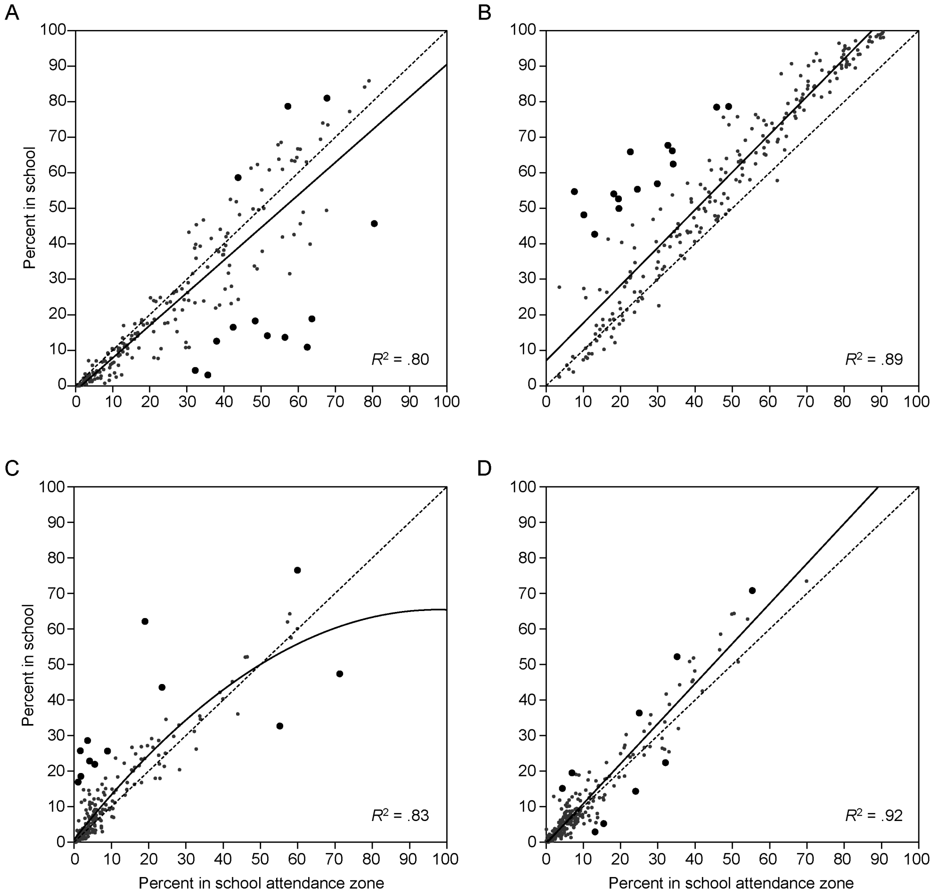

Fig. 2. Relationship between middle school composition and neighborhood ethnic composition. (A) White, (B) Latino, (C) Black, (D) Asian. *Sources:* NCES Common Core of Data (2002); U.S. Census Bureau (2000).

the neighborhood would suggest. The clustering of minority students in schools in the West Los Angeles area, especially the clusters occurring in Santa Monica/Beverly Hills corridor, are especially interesting when juxtaposed with the distinct cluster of negative White outliers in the same area (Fig. 5). There are two likely explanations for this. First, this may be merely a function of mathematics—as White students leave public schools, minority students become a larger proportion of the reduced total. Second, because schools need to retain full classrooms, it is more likely that the pattern reflects a trend whereby minority students from outside the attendance zone travel to that school to alleviate overcrowding in their neighborhood school.

Overall, the trend that become apparent from the scatterplots and the examination of the outliers is one in which White students are under-represented in public schools and minority students are over-represented. This confirms the concern of many researchers that school choice may exacerbate public school segregation (Astin, 1992; Henig et al., 1999; Saporito and Lareau, 1999). This trend is further validated by examining individual

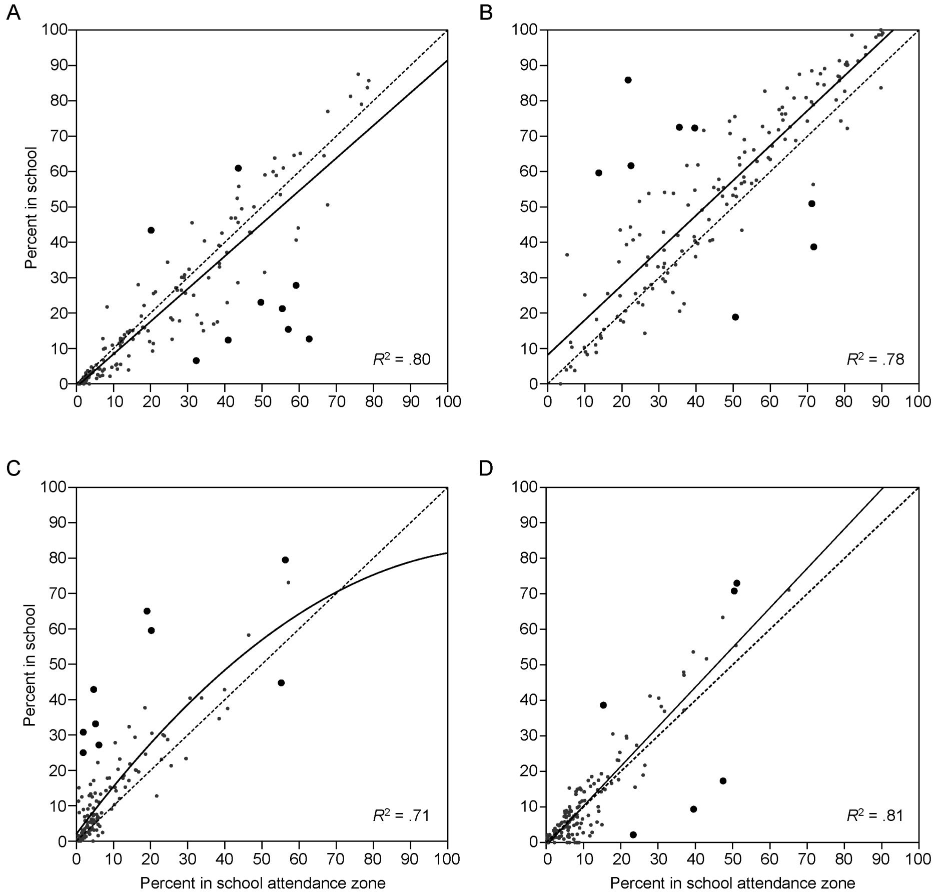

Fig. 3. Relationship between high school composition and neighborhood ethnic composition. (A) White, (B) Latino, (C) Black, (D) Asian. *Sources:* NCES Common Core of Data (2002); U.S. Census Bureau (2000).

level LAFANS data (Table 7). This shows that the majority of White students (62.3%) living in negative White outliers (attendance areas in which the school is less White than the neighborhood) attend private school (49.1%) or a public school outside their residential attendance area (13.2%). It is also clear that a higher proportion of White students living in positive Black outliers attend an alternative school than those living in either positive Latino or positive Asian outliers. This is an important finding that suggests that even in a multiethnic city such as Los Angeles, White flight remains a strategy by which White families avoid contact between their children and Black students.

Implications

The highly segregated nature of public schools in Los Angeles County contrasts with evidence of increased racial and ethnic mixing in the workplace (Ellis et al., 2004).

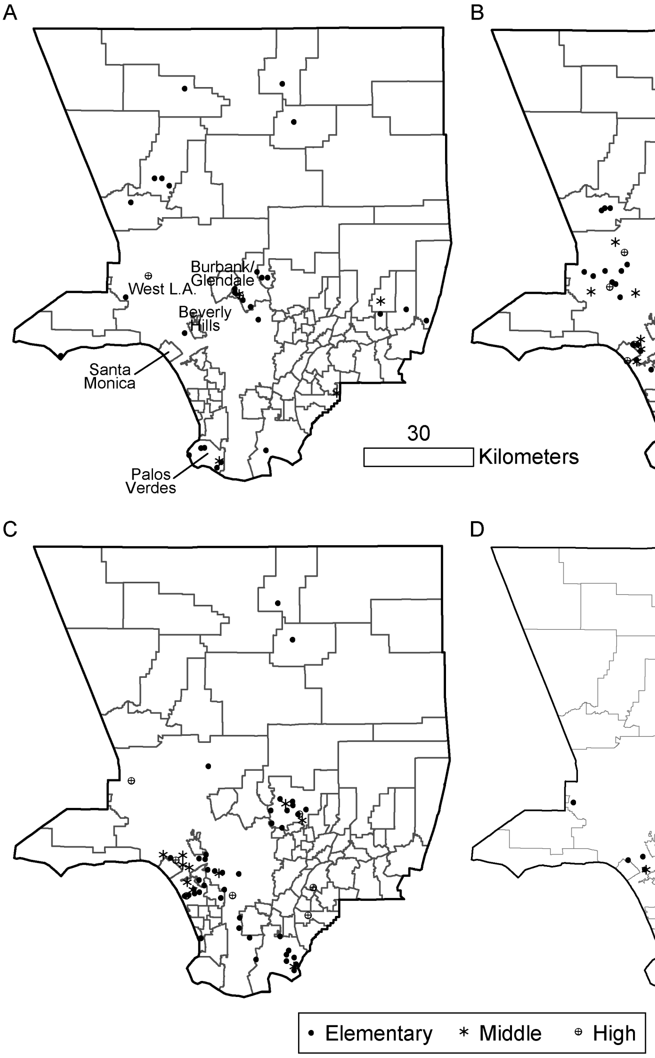

Fig. 4. Location of positive outliers: (A) White, (B) Latino, (C) Black, (D) Asian. *Sources:* NCES Common Core of Data (2002); U.S. Census Bureau (2000).

Although Ellis (2004) suggests that reduced segregation at workplaces may ultimately lead to reductions in residential segregation, the results of this paper raise the possibility that the lack of meaningful interracial and cross-cultural exchange during the school-age years could lead to increased polarization and social exclusion. The tension that led to violent confrontations between Black and Latino students from Jefferson High School in 2005 is an extreme example of what can happen when a segregated school system fails to challenge negative attitudes and stereotypes and plays little if any role in brokering cultural shifts between family, school, and public life in multiethnic societies (Amin, 2002).

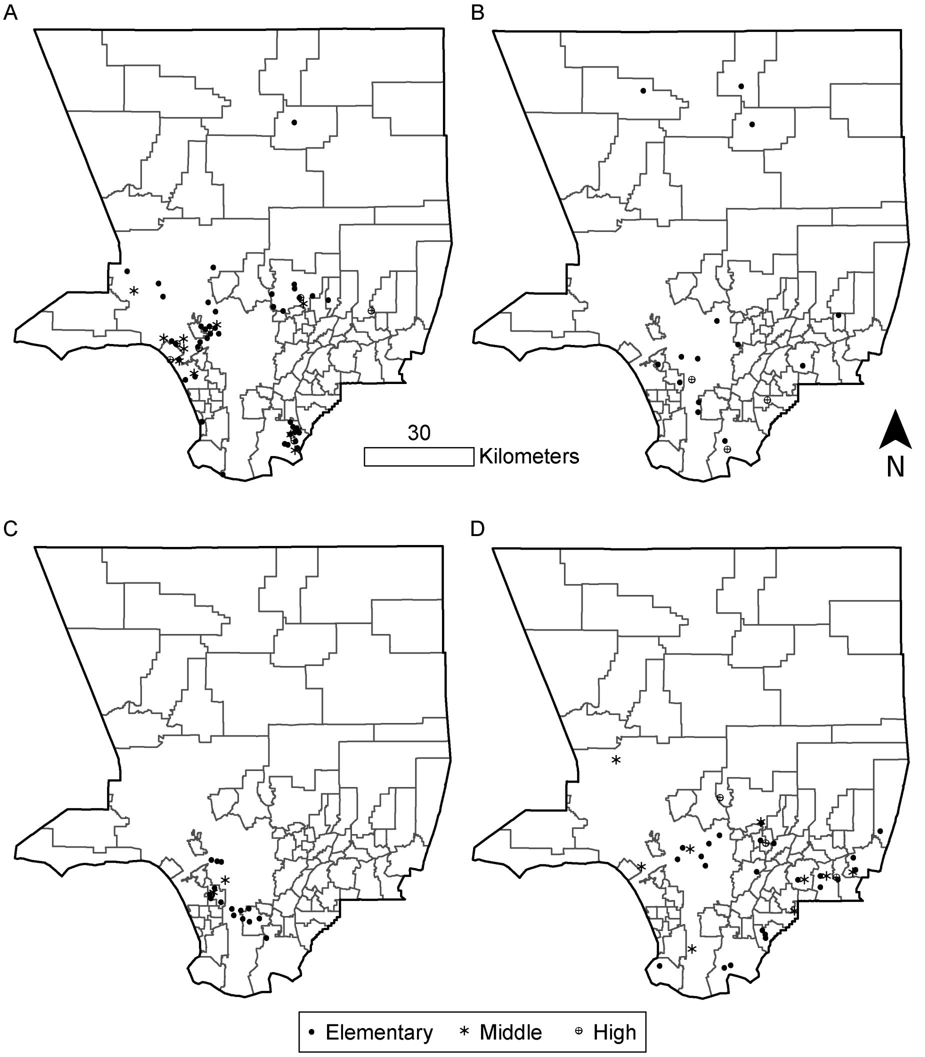

Fig. 5. Location of negative outliers: (A) White, (B) Latino, (C) Black, (D) Asian. *Sources:* NCES Common Core of Data (2002); U.S. Census Bureau (2000).

It is clear from this research that neighborhood wealth and composition exert a great deal of influence on the composition of public schools, directly through the influence of neighborhood affluence and racial composition, but also indirectly in terms of factors such as Title I funding and school quality. It is important to situate these findings in the context of previous research that has been undertaken in recent years on the negative social and economic outcomes associated with living in areas of concentrated poverty, particularly areas of concentrated minority poverty (Jencks and Mayer, 1990; Crane, 1991; Brooks-Gunn et al., 1993; Duncan, 1994; Galster and Killen, 1995). Although it

TABLE 7. DISTRIBUTION OF WHERE WHITE CHILDREN LIVING IN OUTLIER ATTENDANCE ZONES ATTEND SCHOOL

	Where does child attend school?		
	Inside	Outside	Private
Living in negative White outlier[a]			
All (62)	43.5	12.9	43.5
White (53)	37.7	13.2	49.1
Living in positive White outlier			
All (52)	51.9	17.3	30.8
White (21)	50.0	3.3	46.7
Living in negative Latino outlier			
All (40)	55.0	42.5	2.5
White (1)	0.0	100.0	0.0
Living in positive Latino outlier			
All (64)	53.1	26.6	20.3
White (34)	52.9	17.6	29.4
Living in negative Black outlier			
All (37)	35.1	51.4	13.5
White (1)	0.0	0.0	100.0
Living in positive Black outlier			
All (82)	40.2	20.7	39.0
White (39)	12.8	17.9	69.2
Living in negative Asian outlier			
All (69)	66.7	27.5	5.8
White (15)	73.3	20.0	6.7
Living in positive Asian outlier			
All (44)	45.5	36.4	18.2
White (17)	47.1	17.6	35.3

[a] These categories are not mutually exclusive—that is, a neighborhood classified as a negative White outlier could also be a positive Latino outlier.

Sources: Los Angeles Family and Neighborhood Survey (2001); U.S. Census Bureau (2000).

is well known that school quality varies by district, it also varies with neighborhood context. For example, neighborhoods affect school quality through the inability of inner-city neighborhood schools to recruit and retain good teachers (Jencks and Mayer, 1990). Such institutional differences help clarify why students from poorer neighborhoods are more likely to attend inferior schools that spend less time on teaching and learning (Wacquant, 1996). In contrast, living in high-income neighborhoods provides children with a setting in which educational success is normatively and institutionally supported (Crane, 1991; Brooks-Gunn et al., 1993; Halpern-Felsher et al., 1997).

It is also clear from the results above that public school segregation reinforces the social distance that exists between non-Hispanic Whites and other ethnic groups in a more dramatic fashion than the place stratification associated with residential patterns. However, given the fact that residential segregation is declining in metropolitan Los Angeles, it is likely that this is not the result of outright prejudice and racial discrimination, but rather emanates from the relative status advantages of Whites—"the privileges and benefits that accrue to white people by virtue of their whiteness" (Pulido, 2000, p. 13). In effect, the institutional structures that are in place in school districts and education policy continue to reproduce patterns of school attendance that reinforce the isolation of minority students in minority schools with fewer resources than White majority schools. However, one can hope that this is merely the effect of a time lag and that the influence of a more integrated residential mosaic will become apparent in public school composition in the future.

CONCLUSION

This article has examined the relationship between public school and neighborhood composition in Los Angeles County and found that there is a strong correlation between the racial and ethnic composition of the school attendance zone and that of the school located within it. However, the analysis of the outliers suggests that in a multiethnic county such as Los Angeles, private school attendance and open enrollment may increasingly lead to an uncoupling of the relationship between school and neighborhood composition. This has important implications for school integration, and although it has been suggested that open enrollment could lead to greater integration, the evidence from this analysis suggests that it merely adds another means by which White students can avoid attending school in neighborhoods with large proportions of minority students.

Whereas the outliers suggest that changes may occur in the relationship between school and neighborhood composition in the future, it is currently very robust and remains important even when considerations of neighborhood wealth and school characteristics are introduced, although neighborhood wealth does influence patterns of attendance across ethnic groups. It is also clear that the quality and socioeconomic status of the school play important roles in determining enrollment for each racial group. Moreover, the effects of these characteristics vary by ethnicity and school level. Therefore, it is important to avoid concluding that public school composition is merely a reflection of the composition of the residential mosaic. Rather, the decisions that influence public school attendance and resulting racial composition are multidimensional, and constraints associated with residential segregation, income level, and myriad other factors such as the perceptions of the quality of the school and the resources available.

Finally, this study emphasizes the need for caution when making conclusions about the role private schools play in determining the racial and ethnic composition of public schools. It is clear from the regression models that the presence of private schools in school districts plays a minimal role in directly influencing public school composition. But it is also clear from examining the outliers that White students do choose private schools to avoid attending public schools if they live in residential areas with high proportions of minorities, particularly Black minorities. Again, it is evident that public school composition is the result of the interaction of numerous factors at the individual, neighborhood, and policy level. Because of this complexity, it is vital that research on public school composition and the resulting patterns of school segregation continues.

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